

CLAIMS:

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1. A polymerisable mixture comprising
 (i) a liquid crystal monomer or pre-polymer having cross-linkable groups;
 and
 (ii) a photo-orientable monomer or oligomer or polymer.
2. A mixture according to Claim 1, wherein the cross-linkable liquid crystal substance (i) is present in an amount of 100 parts, and the photo-orientable substance (ii) is present in an amount of at least 0.1 part.
3. A mixture according to Claim 2, wherein the photo-orientable substance (ii) is present in an amount of at least 1 ^{part} ~~parts~~.
4. A mixture according to Claim 2, wherein the photo-orientable substance (ii) is present in an amount of at least 10 ^{parts} ~~part~~.
5. A mixture according to ~~any of Claims 1 to 4~~ ^{Claim 1}, wherein the photo-orientable substance (ii) comprises molecules showing a cis-trans-isomerism.
6. A mixture according to Claim 5, wherein the photo-orientable substance (ii) comprises azo dyes.
7. A mixture according to ~~any of Claims 1 to 4~~ ^{Claim 1}, wherein the photo-orientable substance (ii) comprises a linearly photo-polymerisable monomer or oligomer or polymer.
8. A mixture according to ~~any one of Claims 1 to 7~~ ^{Claim 1}, wherein the cross-linkable liquid crystal substance ~~(i)~~ has a nematic phase.

9. A mixture according to ^{Claim 1} ~~any of Claims 1 to 7~~, wherein the cross-linkable liquid crystal substance (i) has a cholesteric phase.
10. A mixture according to ^{Claim 1} ~~any of Claims 1 to 7~~, wherein the cross-linkable liquid crystal substance (i) has a ferroelectric phase.
11. A mixture according to ^{Claim 1} ~~any preceding claim~~, wherein the cross-linkable liquid crystal substance (i) ^{is or comprise} ~~comprises~~ acrylate or diacrylate.
12. A mixture according to ^{Claim 1} ~~any preceding claim~~, further comprising chiral molecules.
13. A mixture according to ^{Claim 1} ~~any preceding claim~~, further comprising dye molecules.
14. A mixture according to ^{Claim 1} ~~any preceding claim~~, further comprising dichroic molecules.
15. A mixture according to ^{Claim 1} ~~any preceding claim~~, further comprising fluorescent molecules.
16. A mixture according to ^{Claim 1} ~~any preceding claim~~, dissolved in a solvent.
17. A presensitised film precursor, comprising a substrate carrying a layer of a mixture according to ^{Claim 1} ~~any of Claims 1 to 16~~.
18. A substrate having an electrically conductive surface which carries a layer of a mixture according to ^{Claim 1} ~~any of Claims 1 to 16~~.

19. An optical component comprising an at least partly polymerised layer of a mixture according to ~~any of Claims 1 to 16~~ ^{Claim 1}.

20. An optical component according to Claim 19, wherein the layer is optically anisotropic.

21. An optical component according to Claim 19 ~~or 20~~, wherein the layer is polymerised with a preferred orientation direction.

22. An optical component according to Claim 21, wherein the layer is polymerised with locally varying preferred orientation directions.

23. An optical component according to ~~any of Claims 19 to 22~~ ^{Claim 19}, wherein the layer has the function of an orientation layer.

24. An optical component according to ~~any of Claims 19 to 22~~ ^{Claim 19}, wherein the layer has the function of a retarder or an optical filter or a polarizer or a polarised light emitter.

25. An optical component according to ~~any of Claims 19 to 22~~ ^{Claim 19}, wherein the layer has the function of an ^①orientation layer ^②as well as a retarder or an optical filter or a polarizer, or a polarised light emitter.

26. A method of making an at least partly polymerised, optically anisotropic layer of a mixture according to ~~any of Claims 1 to 16~~ ^{Claim 1}, comprising

- (a) exposing the mixture to linearly polarised light while maintaining such conditions that the polymerisation or cross-linking of substance (i) is essentially inhibited, whereby at least some of the molecules of the substance (ii) are photo-oriented; and

- (b) allowing substance (i) to adopt the imposed orientation(s) and exposing the mixture to light, whereby at least some of the molecules of the substance (i) are polymerised or cross-linked.

5 27. A method according to Claim 26, wherein during step (a) the mixture is maintained in its isotropic phase.

28. A method according to Claim 26 ~~or 27~~, wherein during step (a) the mixture is exposed to light of different directions of polarisation in different parts.

10 29. An optical component made by a method according to ^{claim 26} ~~any of Claims 26 to 28~~.